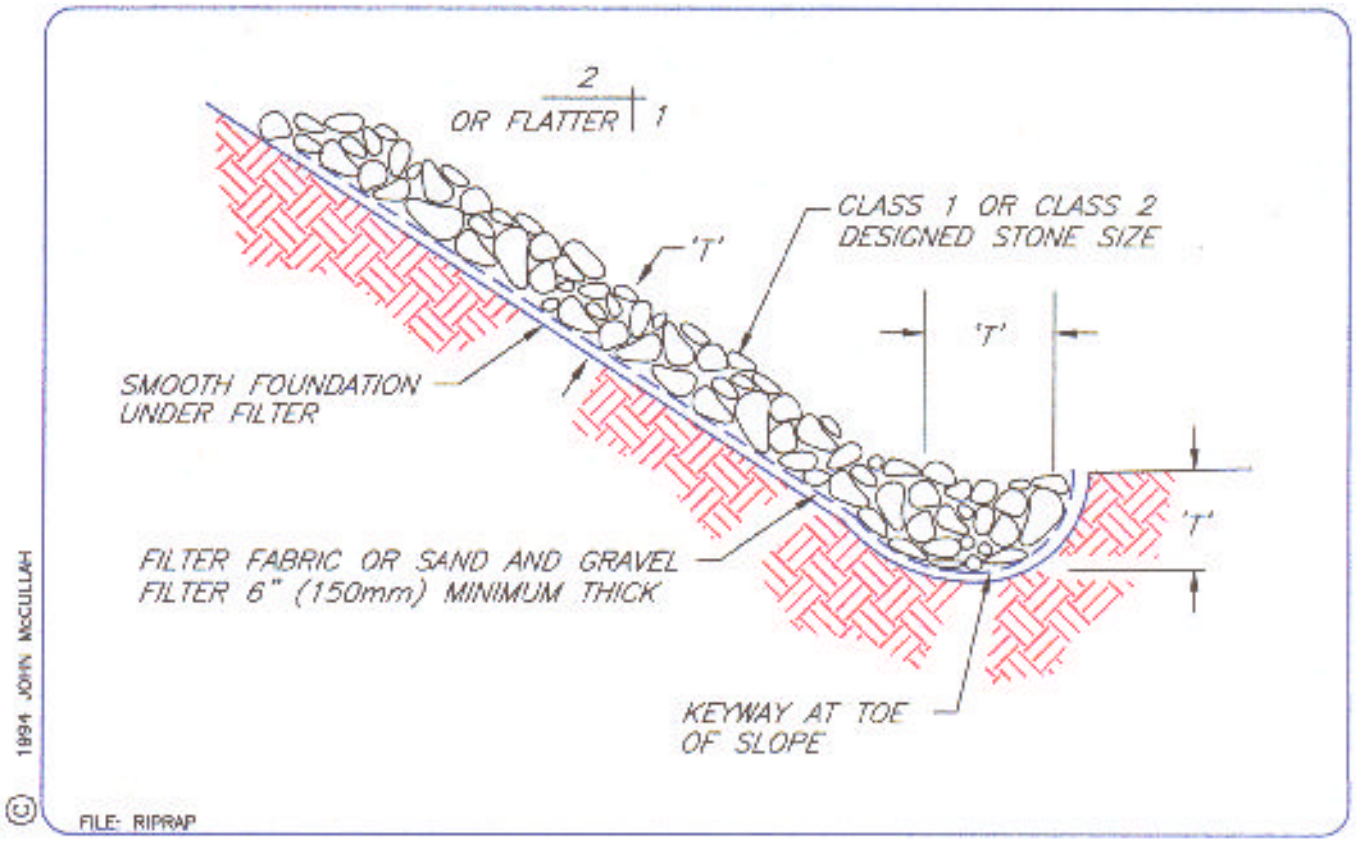
RIPRAP STABILIZATION -- SLOPE OR SHORELINE



This sketch shows the general requirements for installing riprap on a slope or shoreline. Use riprap where the erosion potential is high and the slope is no greater than 1½ horizontal to 1 vertical. Riprap may not be installed along a surface waterbody without the permission of the DEP and Army Corps of Engineers .

INSTALLATION

Install riprap for shoreline and slope stabilization within 24 hours of completing the final grading of the slope.

1. Use riprap where the erosion potential is high and the slope is no greater than 1½ horizontal to 1 vertical.
2. The minimum riprap D50 size is 4 inches. The D50 size refers to the median diameter of the stone. This is the size for which 50 percent, by weight, will be smaller and 50 percent will be larger.
3. Use sub-angular fieldstone or rough unhewn quarry. The stone must be hard and resistant to weathering.
4. Make the riprap layer 2.25 x D50 in thickness. The minimum thickness for a D50 of 4 inches would be 9 inches.
5. Remove brush, trees, stumps and other objectionable material (i.e., organic matter).
6. Compact the subgrade to a density approximating that of the surrounding undisturbed material.
7. Install a geotextile filter cloth on the graded slope according to the manufacturer's recommendations. The upper end of the geotextile should be buried and the lower end should be toed in.
8. Key-in the riprap at the toe of the slope using a trench at least one foot deep. Start placing stones at the bottom of the toe trench and work upwards to the top of the slope. The stone must completely cover the underlying fabric.

MAINTENANCE

- The first year after installation, inspect on a monthly basis the ripraped slope for slumping and loss of stones. Fix the

problems as soon as possible. After the first year, inspect the riprap yearly.

See ‘ MAINE EROSION AND SEDIMENT CONTROL BMPS’ (3/2003) Sections D-1 and D-2 for more information.